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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,215	02/23/2000	Wataru Matsutani	040894-5147-01	4388
9629 7590 02/02/2010 MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004				
EXAMINER WILLIAMS, JOSEPH L				
ART UNIT 2889		PAPER NUMBER		
MAIL DATE 02/02/2010		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/513,215

Applicant(s)

MATSUTANI ET AL.

Examiner

Joseph L. Williams

Art Unit

2889

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27, 29, 31, 33, 35, 37, 39 and 41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27, 29, 31, 33, 35, 37, 39, 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-85/86)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The response filed on 2/27/2009 has been entered and overcomes the rejections to the claims.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 27, 29, 31, 33, 35, 37, 39, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horibe et al. (GB 2302367), of record by Applicant, in view of Katoh et al. (US 5,456,022).

Regarding claim 27, Horibe ('367) teaches in figure 2 and the corresponding text, a spark plug comprising a central electrode (3); an insulator (2) provided exterior to the central electrode; a main metallic shell (1) provided exterior to the insulator; a ground electrode (4) having one end coupled to the main metallic shell and another end facing the central electrode; and an igniting portion (3a, in combination with chip 5) secured to at least one of the central electrode and the ground electrode and forming a spark plug gap; wherein a chip (5) including an Ir-based alloy including Rh in an amount ranging from over 10wt% to 25wt% is placed on a tip end face of the central electrode comprising Ni alloy. The igniting portion, which includes the chip, is an Ir-based alloy including Rh in an amount ranging from 10wt% to 25wt%.

Horibe ('367) does not disclose an annular welding portion laid across the chip and the central electrode.

Further regarding claim 27, Katoh ('022) teaches a spark plug comprised of, in part, an annular welding portion laid across the chip and the central electrode for the purpose of securely anchoring the chip to the center electrode.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the welding portion of Katoh in the spark plug of Horibe for the purpose of securely anchoring the chip to the center electrode.

Regarding claim 29, Katoh ('022) teaches the welding portion is exposed to an outer periphery of the chip, and is not exposed to the tip end face of the chip.

The reason for combining is the same as for claim 27 above.

Regarding claim 31, Horibe ('367) teaches a taper portion is formed at the tip end side of the central electrode, and the chip is bonded to the tip end face of the taper portion so as to form the igniting portion.

Regarding claim 32, Horibe ('367) teaches the central electrode is arranged such that the whole of the taper portion protrudes from an outside of an opening edge of a through hole of the insulator, the central electrode being inserted into the through hole.

Regarding claim 35, the chip being produced by working a molten alloy at 700°C or more by hot rolling or hot forging to a wire or rod shape, and thereafter, cutting tile worked alloy to a specified length in a longitudinal direction is a product by process limitation and thus has not been afforded patentable weight.

Regarding claim 37 the chip is produced by working a molten alloy at 700°C or more by hot rolling to a sheet, hot blanking the sheet to a chip of a specified shape, and welding and bonding the chip is a product by process limitation and thus has not been afforded patentable weight.

Regarding claim 39, Horibe ('367) teaches the igniting portion (combination of parts 3a and 5) includes an Ir-based alloy including Rh in an amount ranging from 15wt% to less than 25wt%.

Regarding claim 41, Horibe ('367) teaches the igniting portion includes (combination of parts 3a and 5) an Ir-based alloy including Rh in an amount ranging from 18wt% to less than 22wt%.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on (571) 272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph L. Williams/
Primary Examiner, Art Unit 2889